

What is claimed is:

1. A wood golf club head which is designed so that launch angle and backspin speed of a golf ball can be located in the region defined by an ellipse whose center is positioned on Point O(21, 1800), length of a major axis L is equal to 2100(rpm), length of a minor axis S is equal to 5.7(deg), and gradient θ of the major axis measured in a counterclockwise direction from the vertical axis is equal to 0.25(deg), wherein the horizontal coordinate designates the launch angle(deg) of a golf ball, the vertical coordinate designates the backspin speed(rpm) of a golf ball, and the horizontal and vertical axes are on the same scale.
- 15 2. A wood golf club head which is designed so that launch angle and backspin speed of a golf ball can be located in the region defined by an ellipse whose center is positioned on Point O(23, 1700), length of a major axis L is equal to 1900(rpm), length of a minor axis S is equal to 3.9(deg), and gradient θ of the major axis measured in a counterclockwise direction from the vertical axis is equal to 0.19(deg), wherein the horizontal coordinate designates the launch angle(deg) of a golf ball, the vertical coordinate designates the backspin speed(rpm) of a golf ball, and the horizontal and vertical axes are on the same scale.

3. A wood golf club head which is designed so that launch angle and backspin speed of a golf ball can be located in the region defined by an ellipse whose center 5 is positioned on Point O(23, 1700), length of a major axis L is equal to 1400(rpm), length of a minor axis S is equal to 2.8(deg), and gradient θ of the major axis measured in a counterclockwise direction from the vertical axis is equal to 0.19(deg), wherein the horizontal coordinate designates 10 the launch angle(deg) of a golf ball, the vertical coordinate designates the backspin speed(rpm) of a golf ball, and the horizontal and vertical axes are on the same scale.

4. The wood golf club head according to claim 15 1, 2 or 3, wherein said ellipse is determined by solving the equation of motion using the following equations:

$$F_x(t) = -1/2(C_D(t)\cos\alpha + C_L(t)\sin\alpha) \rho A V_B(t)^2$$

$$F_y(t) = -1/2(C_D(t)\sin\alpha - C_L(t)\cos\alpha) \rho A V_B(t)^2 - mg$$

$$N(t+\Delta t) = -\rho A d C_m(t) V_B(t)^2 \Delta t / (4\pi I) + N(t)$$

20 wherein $F_x(t)$ is force applied to a ball in flight in the flight direction at time instant t , $F_y(t)$ is force applied to a ball in flight in the vertical direction at time instant t , and $N(t+\Delta t)$ is decrease in the rotational speed of a ball due to aerodynamic torque after interval of Δt ;
25 and

wherein C_D : drag coefficient, C_L : lift coefficient, α : elevation angle of a ball(deg), ρ : air density(kg/m^3), A : ball sectional area(m^2), V_B : ball velocity(m/sec), m : ball mass(kg), g : gravitational acceleration(m/sec^2), C_m : moment coefficient, d : ball diameter(m), I : moment of inertia of a ball ($\text{kg} \cdot \text{m}^2$), N : ball rotational speed(rps).

5. The wood golf club head according to claim
10 1, 2 or 3, wherein a face of said wood golf club head is formed
of a low friction material.

6. The wood golf club head according to claim
5, wherein said face is coated with DLC(Diamond-like carbon),
15 ceramic, or SiC.

7. The wood golf club head according to claim
5, wherein said face is composed of DYNEEMA® FRP.

20 8. The wood golf club head according to claim
5, wherein said face is plated with chromium or dispersed
nickel.

25 9. The wood golf club head according to claim
5, wherein said face has an insert formed of polyacetal,

polyamide, polytetrafluoroethylene, polyphenylenesulfide, polyamideimide, or polyimide.

10. The wood golf club head according to claim
5 1, 2 or 3, wherein said face is formed of composite materials
that are made from pitch-based carbon fiber and pitch-based
matrix.

11. The wood golf club head according to any
10 one of claims 1 to 4, wherein said wood golf club head is
a driver club head.

12. The wood golf club head according to any
one of claims 1 to 4, wherein said wood golf club head is
15 a driver club head, and its loft is 13 to 20 degrees.